

**ABSTRACT OF DISCLOSURE**

A mechanism provided to program forwarding tables for switches in a subnet of a switched fabric including at least a host system, a target system and switches each having one or more ports interconnected via links for multipathing. Such a mechanism may be installed in a host system to determine all possible links between all ports on the subnet during topology discovery; create an all port connectivity table which records all port-to-port connectivity information; create an all switch shortest paths table which records all the shortest paths between every switch pair on the subnet based the port-to-port connectivity information; and compute forwarding tables for respective switches on the subnet that allow usage of multiple paths between port pairs based on the port-to-port connectivity information and based on the shortest paths between every switch pair.